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No Man is an island: evidence of pre-Viking Age migration to the Isle of Man

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ABSTRACT

The Isle of Man occupies a central position in the Irish Sea, in close proximity to the coasts of Ireland, north Wales, northwest England and southwest Scotland. The island's location means it presents an ideal stopping point for seafarers navigating the Irish Sea 'trade highway', and consequently, during the early medieval period, the island was the focus of power struggles between British and Irish elites, and eventually became the target of attack and subsequent settlement of people from Scandinavia during the Viking Age. It is the Viking-Age evidence that has been central to the discussion of migration to the Isle of Man to date, whilst less consideration has been given to population mobility to the island prior to the 10th century. This paper seeks to address this by presenting strontium and oxygen isotope data for a sample ($n = 12$) of two pre-10th century cemetery populations from the Isle of Man: Balladoole and Peel Castle. This study highlights evidence for mobility to the island prior to the advent of Viking-Age migrations, and consideration is given to the possible motivations for this early medieval mobility.

1. Introduction

The Isle of Man occupies a central position in the Irish Sea, and is no more than 80 km away from both mainland Britain or Ireland (Freke, 2002) (see Fig. 1). During the early medieval period (5th–10th century), the Isle of Man's location meant that it became the focus of interest for neighbouring elites because 'Man was at the hub of the Irish Sea and thus crucial for continuing links between the Britons of the north and those of Wales and between Britons and Ireland' (Charles-Edwards, 2013: 14). In the context of migration, however, the Isle of Man is most often discussed in the context of the Viking Age due to the archaeological evidence for the arrival and settlement of people from Scandinavia on the island from the early-10th century onwards (Wilson, 2008). For example, evidence for Viking-Age activity includes a boat burial from Balladoole thought to belong to a high-status male of Scandinavian descent, and a group of elaborately furnished 10th-century burials from Peel Castle (Bersu and Wilson, 1966; Freke, 2002). Less consideration has, however, been given to migration to, and settlement of, the island prior to the Viking Age. Thus, through the strontium and oxygen isotope analysis of human skeletal remains from two cemetery populations – Balladoole and Peel Castle – this study seeks to identify, and consider the possible stimuli for, pre-10th-century mobility, and in doing so will demonstrate that the Irish Sea was a means by which local communities navigated the British Isles long before the arrival of the vikings.

2. The early medieval funerary landscape of western Britain

Comparison between the early medieval funerary record of the Isle of Man and western Britain demonstrates the adoption of similar funerary rites in both regions; for example, the use of stone-lined graves was adopted across much of the north and west of Britain from the 5th century AD onwards. Burials in western Britain are said to reflect Christian ideals, with the deceased buried in a supine position, oriented with the head to the west and usually without grave goods, although it is worth noting that the inclusion of white quartz is a burial rite unique adopted to this region (Laing, 2006; Holbrook and Thomas, 2005; Gilchrist, 2008; Longley, 2009). Such similarities could therefore suggest a degree of contact and exchange of ideas between the Christian communities living around the Irish Sea at this time. In seeking to investigate mobility to the Isle of Man prior to the 10th century, a sample of burials ($n = 12$) from two cemetery populations – Balladoole and Peel Castle – were subjected to strontium and oxygen isotope analysis. In order to explore the data from these sites in the context of other early medieval cemetery populations from western Britain, the

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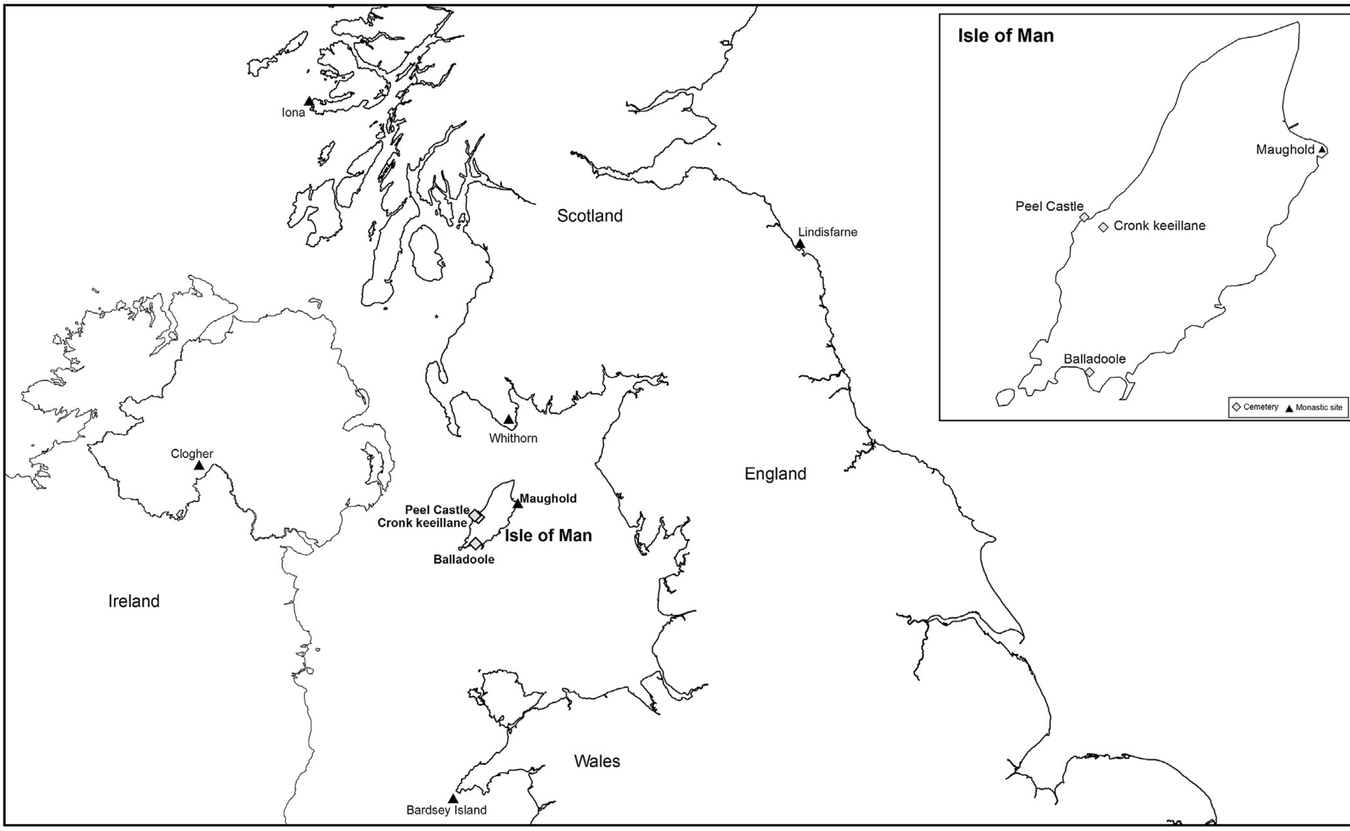

Fig. 1. Map of the Isle of Man illustrating the island's central position within the Irish Sea and the location of the sampled cemetery sites. The location of important ecclesiastical centres in Britain and Ireland are also shown.

results of this study are considered alongside data obtained from the analysis of the early medieval cemetery of Cronk keeillane ($n = 7$), also on the Isle of Man (Hemer, 2012) (see Sections 2.1, 2.2 and 2.3).

2.1. Peel Castle

St Patrick's Isle is a small islet formed of sandstone separated from the west coast of the island at Peel harbour (see Fig. 1). The islet is dominated by the ruins of the 13th-century cathedral of St German, and a 15th-century curtain wall, flanking tower and hall known collectively as Peel Castle (Freke, 2002). The earliest structural evidence for ecclesiastical activity on the islet includes St Patrick's Church and a keeill – a small rectangular stone chapel – which date from the 10th-to 11th-centuries AD (Freke, 2002).

A number of excavations have taken place on St Patrick's Isle since the 20th century; Professor Gerhard Bersu excavated the northwest half of the islet in 1947, and Dr C.A. Ralegh Radford concentrated on St German's Cathedral and St Patrick's Church in 1962 (Freke, 2002). A number of burials were found during these early excavations, but in the 1980s, a systematic excavation by David Freke conducted to the north of St German's Cathedral chancel revealed a cemetery of 327 burials (Freke, 2002). Radiocarbon dates show that the earliest burials date from AD 650–960 (2σ), and the latest date to AD 1290–1440 (2σ), whilst two coins including a half penny of Eadred (dated AD 946–55) and a coin of Edmund (dated AD 939–46) also provide a 10th-century date for a group of burials in this area (Freke, 2002). In total, 23 burials were identified as pre-10th or probable pre-10th century, due to their phase within the cemetery, available radiocarbon dates, or because of their overall characteristics (e.g. lintel graves) (Freke, 2002). The standard of skeletal preservation was considerably variable across the cemetery; many early burials were poorly preserved and consequently it was not possible to accurately age or sex all of the skeletons; the osteological data in Table 1 are drawn from the original assessment (Rubin, 2002). Stable isotope analysis was undertaken on eight skeletons who were believed to be of pre-10th century date, and whose permanent teeth were suitable for analysis (see Table 1).

2.2. Balladoole

On the southeast coast of the island, the cemetery of Balladoole occupies a small hillock overlying an outcrop of limestone known locally as ‘Chapel Hill’ (see Fig. 1). The site is best known for a boat burial excavated by Professor Gerhard Bersu in 1945 (Bersu and Wilson, 1966; Wilson, 2008), however it is not the occupant of this burial that forms the focus of the present study. Rather, this paper concentrates on the cemetery of lintel graves found beneath the boat burial, which indicate that the Balladoole cemetery was in use prior to the arrival of settlers from Scandinavia (Bersu and Wilson, 1966; Wilson, 2008). Radiocarbon dating confirmed this, providing a 4th–7th century AD date for one of the lintel burials (Fox, pers.comm). According to Bersu's excavation report, the bodies were laid supine with their arms by their sides and hands placed on the pelvis, and were oriented east-west and without grave goods (Bersu and Wilson, 1966). As the original osteological study was conducted in 1960 (Bunting and Verity, 1960), a reassessment of the skeletal remains was undertaken by KH, which identified both adults and non-adults (Hemer, 2010). It was possible to correspond 18 skeletons with the *in situ* burials

Table 1
Strontium and oxygen isotope values (including $\delta^{18}O_{dw}$ calculated according to Chenery et al., 2010) for the study sample, and data for Cronk keeillane (Hemer, 2012). Osteological data from Hemer (2010) and Rubin (2002), and context information from Freke (2002) and Bersu and Wilson (1966). Tooth enamel sampled from M2 = 2nd permanent molar, P2 = 2nd pre-molar. Sites represented by the following codes: PE = Peel Castle, BD = Balladoole, CK = Cronk keeillane. Sex categories are: M = male, F = female, U = undetermined.

Burial	Sex	Age	Sample	$\delta^{18}O_p$	± 1σ	$\delta^{18}O_{d.w}$	± 1σ	$^{87}Sr/^{86}Sr$	$^{87}Sr/^{86}Sr$ ppm	Burial provision	^{14}C (2σ)
BD 3	M	18–25	M2	17.9	0.1	−6.3	0.1	0.7109	73.9	–	–
BD 6	F	18–25	M2	19.0	0.1	−3.8	0.2	0.7100	68.2	Earth dug grave	–
BD 24	F	18–25	M2	18.3	0.0	−5.6	0.0	0.7093	54.3	Lintel grave	–
BD 27	M	>45	M2	17.2	0.0	−7.9	0.0	0.7090	62.0	Earth dug grave	–
PE 1066	U	Adult	M2	17.5	0.2	−7.2	0.3	0.7104	71.8	Coffin, quartz pebble, rivets	–
PE 1118	F	Adult	M2	18.4	0.0	−5.3	0.1	0.7102	99.3	Lintel grave	–
PE 1149	U	Adult	M2	18.4	0.1	−5.3	0.2	0.7102	113	Lintel slabs around head	–
PE 496	M	>45	M2	18.0	0.2	−6.0	0.3	0.7091	36.1	Lintel slabs around head, quartz pebble	–
PE 560	U	?Adult	M2	17.3	0.1	−7.6	0.3	0.7097	85.0	Lintel slabs around head, nails	–
PE 697	U	13–17	M2	17.7	0.1	−6.7	0.3	0.7096	110	Earth dug grave, 8 glass beads	–
PE 464	F	Adult	P2	18.6	0.2	−4.9	0.4	0.7104	131	–	–
PE 587	U	Adult	M2	17.5	0.1	−7.2	0.3	0.7099	202	Earth dug grave	–
CK 1225	M	>45	M2	17.9	0.1	−6.2	0.2	0.7105	107	–	AD 579–654
CK 1234	M	35–45	M2	17.7	0.1	−6.7	0.2	0.7110	74.3	–	AD 656–722/AD 741–770
CK 1236	M	18–25	M2	18.5	0.2	−5.0	0.4	0.7104	127	–	–
CK 1769	M	18–25	M2	17.3	0.0	−7.6	0.1	0.7094	146	–	AD 581–654
CK 1781	F	25–35	M2	18.8	0.0	−4.5	0.0	0.7100	66.6	–	–
CK 1226	M	Adult	M2	17.3	0.1	−7.6	0.2	0.7121	113	–	AD 564–646
CK 1581	F	25–35	M2	17.7	0.1	−6.7	0.2	0.7090	121	–	AD 567–649

recorded on Bersu's excavation plan; four skeletons from the *in situ* burials were chosen for strontium and oxygen isotope analysis (see Table 1).

2.3. Cronk keeillane

Much of what is known about the cemetery of Cronk keeillane comes from antiquarian accounts from the late 19th and early 20th century (Oswald, 1860; Barnwell, 1868; Kermode, 1926). The cemetery, which overlies an area of Devonian sandstone, is situated on the west side of the Isle of Man (see Fig. 1). In the Manx language, Cronk keeillane translates to 'Mound of the little church', suggesting that the site once had a Christian association (Kermode, 1926). Antiquarian excavations revealed a cemetery east of a small barrow, where graves of various sizes were arranged in a parallel fashion (Oswald, 1860). Further excavation in 1925 uncovered the remains of a keeill, while a cross-inscribed stone found near the rear wall was dated by P.M.C. Kermode to the 6th century (Kermode, 1926). The antiquarian reports thus suggest that Cronk keeillane was an early medieval lintel grave cemetery similar to those found elsewhere on the island such as at Balladoole. Human skeletal remains were excavated from the site during the 1980s, however the excavation was never published. More recent radiocarbon dating confirmed an early medieval date for five of the skeletons; four individuals dated to AD 564–654 (2σ) whilst one individual dated to AD 656–770 (2σ) (Hemer, 2010, 2012) (see Table 1). An osteological assessment by KH identified 16 adults and two non-adults within the existing skeletal collection (Hemer, 2012). Of these 18 skeletons, seven adult individuals were selected for strontium and oxygen isotope analysis (see Table 1).

3. Investigating population origins through isotope analysis

The application of isotope analysis to the investigation of past population mobility is well established in archaeology. Whilst numerous studies have been undertaken on cemetery populations from Anglo-Saxon England (e.g. West Heslerton, see Budd et al., 2003), it is only recently that human remains from early medieval western Britain have been subject to such investigation (Hemer, 2010, 2012; Hemer et al., 2013). Consequently, the isotopic analysis of 12 individuals from two cemetery sites from the Isle of Man offered an invaluable opportunity to further our understanding of population mobility around western Britain during the pre-Viking period.

Advances in analytical methods, as well as an ever-growing corpus of reference data (e.g. Evans et al., 2010, 2012), facilitates the identification of 'local' and 'non-local' individuals, and it is only necessary to provide a brief summary of the methodological principles here. Strontium and oxygen isotopes provide an indication of childhood residence as the enamel of the permanent molar teeth forms sequentially between birth and adolescence during which time strontium and oxygen isotopes derived from food and water are incorporated into the hydroxyapatite portion of the enamel matrix (Montgomery and Evans, 2006).

Strontium isotopes reflect the underlying geology of the region where the individual sourced his or her food – and thus resided – at the time of enamel maturation (Montgomery and Evans, 2006). In coastal regions, marine-derived strontium from sea spray also contributes to the local biosphere (Evans et al., 2010). Similarly, in regions of high rainfall (>2000 mm) – as in western Britain – marine-derived strontium from rainfall also has a dampening effect on the local biosphere (Evans et al., 2010). The geology of the Isle of Man consists of Cambrian, Ordovician and Silurian slates and mudstones, with a small region of Devonian sandstone in the west and an outcrop of Carboniferous limestone in the south (Chiverrell, 2002; Wilson, 2008; Evans et al., 2010). Considering similar rock types elsewhere in Britain, it would be expected that the geology of the Isle of Man would give comparable strontium isotope biosphere values of 0.710–0.713. However, it would be predicted that the strong marine influence on this small island would mute these values towards a seawater value of 0.7092 (Evans et al., 2010).

Oxygen isotope analysis identifies the ratio between the lighter (^{16}O) and heavier (^{18}O) oxygen isotopes, which is determined by various factors including the source of the water, proximity to the coast, altitude, temperature and climatic conditions, all of which vary according to geographic location (Darling et al., 2003, 2006; Chenery et al., 2010). Evans et al.'s. (2012) oxygen isotope data for the British Isles has a mean value of 17.7‰ ± 1.4 (2σ, n = 615), whilst populations from west-coast, high-rainfall areas versus east-coast, low-rainfall areas provide values of 18.2‰ ± 1 (2σ, n = 40) and 17.2‰ ± 1.3 (2σ, n = 83) respectively. Individuals raised on the

Isle of Man would fall into the 'west-coast, high-rainfall category' which, when using Chenery et al.'s (2010) version of Levinson et al.'s (1987) drinking water equation, translates into a mean drinking water ($\delta^{18}O_{dw}$) value of-5.6‰ ± 2.7 (2σ) which is in agreement with the Isle of Man data from Darling et al. (2003).

3.1. Materials and methods

In total, 12 individuals were selected on the basis of available dental material, osteological data (e.g. age, sex) and funerary data (e.g. burial type, radiocarbon dates) (see Table 1). The second permanent molar (M2) was chosen for analysis in all but one case; skeleton PE 464 was sampled for the second pre-molar (P2) due to the absence of the molar teeth. Strontium and oxygen analysis would identify each individual's place of residence between 3 and 7 years of age (Hillson, 1996; Montgomery, 2002; Hoppe et al., 2003). Due to the dearth of strontium biosphere data for the Isle of Man, modern plant material taken from three different locations across the island, and a sample of dentine from skeleton BD 24 from Balladoole, were analysed to establish the bioavailable strontium isotope composition of the study region (see Table 2).

3.2. Sample preparation and mass spectrometry

Fragments of enamel were removed and prepared according to the method advocated by Evans et al. (2006a, 2006b). Following the method of O'Neil et al. (1994), biogenic phosphate was converted to silver phosphate (Ag_3PO_4) in preparation for oxygen isotope analysis. The samples of silver phosphate were weighed into silver capsules and were analysed in triplicate through Continuous Flow Isotope Ratio Mass Spectrometry according to Vennemann et al. (2002). The oxygen isotope measurements were corrected using the reference material NBS120C, which has an accepted value of +21.7 ± 0.5‰ VSMOW (Chenery et al., 2010). Analytical precision based on the repeat analysis of the reference material was 0.11‰ (1σ, $n = 13$ over 3 analysis runs) and the sample reproducibility based on triplicate sample analyses was better than ± 0.2‰ (1σ). See Chenery et al. (2010) for further discussion.

Strontium was collected through a Dowex resin ion exchange column. Once isolated, the strontium was loaded onto a rhenium filament after the method of Birck (1986). A Thermo Finnegan Thermal Ionising Mass Spectrometer using a static analysis programme measured the $^{87}Sr/^{86}Sr$ ratios. The international $^{87}Sr/^{86}Sr$ standard NBS987 gave a value of 0.710227 ± 10 (2σ, $n = 51$) during the period of analysis, and the data were corrected to the accepted value for this standard (0.710250). The plant material and dentine collected for strontium analysis were prepared following the method of Evans et al. (2010).

4. Results

The results of the strontium and oxygen isotope analysis are presented in Table 1 and Fig. 2.

The range of strontium biosphere values (0.7092–0.7113) established through the analysis of a dentine sample from Balladoole and modern plant samples are consistent with the range and conditions discussed above and presented by Evans et al. (2010) for the British Isles (see Table 2). The minimum value (0.7092) is that of seawater, whilst the highest measured value (0.7113) probably reflects the combination of geologically-derived strontium and marine-derived strontium, and is taken as a maximum value for the island's biosphere. Consideration of the possible places of origin for the study sample are made on the basis of published data, however, the possibility that other regions with similar geological and climatic profiles may exist is recognised (e.g. Asch, 2005; Bowen and Wilkinson, 2002; Daux et al., 2008; Chenery et al., 2010; Evans et al., 2012; Knudson et al., 2012). Moreover, the data are interpreted in the context of available archaeological and historical evidence; however, it is acknowledged that the present interpretations are by no means definitive and may be subject to reconsideration in the future, if additional data becomes available.

Table 2
Strontium biosphere data obtained from the analysis of dentine from skeleton BD 24, and plant material collected from three different locations across the island (OS grid references provided).

Sample	Location	Type	$^{87}Sr/^{86}Sr$
BD 24	Balladoole cemetery	Dentine	0.7092
IOM-1	Archallagen (Grid reference: SC295795)	Plant	0.7091
IOM-2	Snaefell Mountain (Grid reference: SC39567832	Plant	0.7113
IOM-3	St Judes (Grid reference: SC405965)	Plant	0.7104

4.1. Strontium isotope analysis

The tooth enamel samples provide a range of strontium values between 0.7090 and 0.7109 (mean 0.7099 ± 0.0006, 2σ) (see Table 1). Based on the strontium data, the study sample fall within the strontium range established for the Isle of Man biosphere. The range of strontium concentrations (36.1–202 ppm, mean 92.2 ± 43.9, 2σ) are consistent with the values published for other archaeological populations from Britain (mean 98 ± 130 ppm (2σ, $n = 197$) (Montgomery, 2002; Evans et al., 2006a, 2006b; Montgomery et al., 2007; Leach et al., 2009; Eckardt et al., 2009; Chenery et al., 2010).

A number of individuals within the study sample have high strontium concentrations (>100 ppm), with PE 587 having the greatest concentration at 202 ppm (see Table 1). A combined marine strontium signature and high strontium concentration is noted amongst populations who utilise seaweed to fertilise the land, as has been documented for the Outer Hebrides (Montgomery et al., 2007). Coastal farming communities elsewhere in Britain (e.g. south Wales, Cornwall) also used such subsistence methods up until the mid-20th century, and the data could therefore indicate a childhood origin in such regions (Hallsson, 1961; Amorosi et al., 1998; Balasse et al., 2005).

4.2. Oxygen isotope analysis

The phosphate oxygen ($\delta^{18}O_p$) values range from 17.2‰ to 19.0‰ (mean 18 ± 0.6‰, 1σ) (see Table 1). When converted to $\delta^{18}O_{dw}$ values using Levinson et al.'s (1987) equation in accordance with Chenery et al. (2010), the calculated $\delta^{18}O_{dw}$ values range from −3.8‰ to −7.9‰ (mean −6.2 ± 1.2‰, 1σ). The range of oxygen isotopes from the individuals from the Isle of Man are comparable with the range of values recorded for the entire population from the western coast of Britain according to Evans et al. (2012). This perhaps suggests that the individuals from the Isle of Man represent a cross-section of coastal dwellers. Whilst some of the individuals have $\delta^{18}O_{dw}$ values consistent with those ascribed to the Isle of Man by Darling et al. (2003) (e.g. BD 24, PE 1118), the extreme values (BD 6: 19.0‰, −3.8‰; PE 560: 17.3‰, −7.6‰; BD 27: 17.2‰, −7.9‰) are unlikely to represent local individuals even when the uncertainty surrounding the conversion of $\delta^{18}O_p$ values to $\delta^{18}O_{dw}$ values is taken into account (Pollard et al., 2011). The remaining individuals have $\delta^{18}O_{dw}$ values between −6‰ and −7‰ that are consistent with coastal areas of England, Scotland, Ireland and Wales, as well as Atlantic coastal areas. The nearest possible origin for BD 27, which has the lowest $\delta^{18}O_{dw}$ values of −7.9‰, is probably Ireland, but east coast Scotland and England would also be

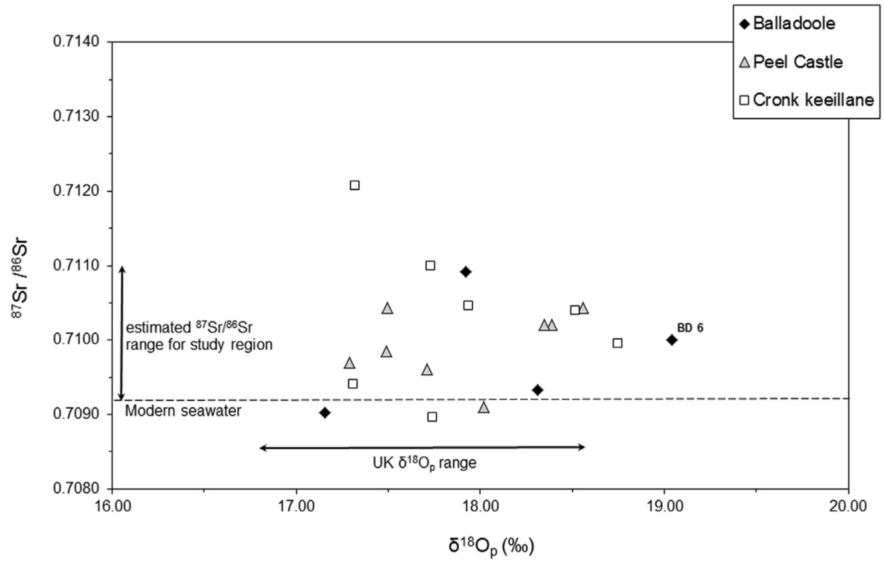

Fig. 2. Strontium and oxygen isotope data for the study sample and Cronk Keeillane (Hemer, 2012). Also indicated is the estimated range of $\delta^{18}O_p$ values for humans from Britain according to Chenery et al. (2010) and the $^{87}Sr/^{86}Sr$ of modern seawater.

possibilities (Darling et al., 2003; Diefendorf and Patterson, 2005; Knudson et al., 2012). The individual with the highest $\delta^{18}O_{dw}$ value (BD 6: 19.0‰,−3.8‰) is likely to be of Continental or Mediterranean origin, as there is only 2.5% percent probability that this individual is of British origin based on comparison with Evans et al.'s (2012) dataset for the British Isles. Daux et al. (2008) use a $\delta^{18}O_p$ value of 18.5‰ to characterize individuals from equatorial Cameroon, so although extreme values such as that for BD 6 (19.0‰) cannot be excluded from the British dataset, they would be more typical of populations from hotter, drier regions. Evans et al. (2012) suggest that beyond Britain, approximately 16% of the territory controlled by the Roman Empire could accommodate $\delta^{18}O_{dw}$ values between −5‰ and −3‰. BD 6 ($\delta^{18}O_{dw}$, −3.8‰) falls within this range, and therefore could have originated around the southern or eastern margin of the Mediterranean Sea, North Africa or southern Iberia (Chenery et al., 2010; Evans et al., 2012; Groves et al., 2013). The data for skeleton BD 6 are comparable to results obtained for a small number of individuals from the early medieval cemeteries of Llandough, Brownslade and Porthclew in south Wales (Hemer et al., 2013), and from the 7th-to 9th-century cemetery of Bamburgh in northern England (Groves et al., 2013). Evidence for long distance trade recovered from nearby high-status settlements has led to the suggestion that individuals from warmer climates may have travelled alongside such trade to the British Isles, where they were eventually buried (Groves et al., 2013; Hemer et al., 2013). Whilst the archaeological evidence for long distance trade provides some support for the occurrence of these non-local individuals, when interpreting data such as those obtained for BD 6, it is nonetheless necessary to recognise others factors responsible for elevated oxygen values. There are processes – both natural and anthropogenic – that can modify the isotopic composition of drinking water sources. For example, the oxygen isotope composition of large surface waters (e.g. rivers, lakes) collected from precipitation are affected by evaporative fractionation, and as such can have oxygen isotope ratios that are approximately 1–2‰ more positive in comparison to the source precipitation (Darling and Talbot, 2003; Darling, 2004; Evans et al., 2012). Darling et al. (2003) have shown, however, that there is no evidence for evaporatively enriched natural drinking water sources in the study region. An alternative possibility is the evaporation associated with the brewing of ale or the stewing of pottage which can increase $\delta^{18}O$ values by > 1‰ (Brettell et al., 2012a). Such methods would affect the recorded $\delta^{18}O_{dw}$ values of individuals reliant upon foods processed in this way, and has been offered as one possible explanation for the identification of so-called 'warm climate' individuals amongst Anglo-Saxon populations from England (Brettell et al., 2012a, 2012b). Whilst these possibilities are acknowledged, so too is the corpus of archaeological and historical evidence which demonstrates the continuation of trade and contact with continental Europe and the Mediterranean which may have facilitated the migration of people from warmer climates to the British Isles during the early medieval period (Thomas, 1959; Wooding, 1996; Campbell, 2007; Hemer et al., 2013).

5. Discussion

During the early medieval period, the people of Britain and its surrounding islands were not static, nor were they in isolation. The stable isotope data obtained as part of this study has identified some individuals who were probably local to the Isle of Man as children and others who appear to have travelled to the island from elsewhere in the British Isles at some point after early childhood. These results illustrate how the island's central position in the Irish Sea provided an important means of connecting mainland Britain in the east, to Ireland in the west. There is, however, a need to interpret the isotopic data in light of available archaeological and historical evidence in order to explore some of the possible motivations for mobility to the Isle of Man in the pre-Viking period. The possible reasons discussed below are by no means finite, but seek to illustrate that a range of factors – both secular and religious – may have stimulated the movement of populations at this time.

5.1. Contact and mobility around the Irish Sea

The Isle of Man was virtually untouched by the Romans; there is no evidence for Roman settlement and Roman finds are scant, but by the early 5th century, the island was occupied by both British and Irish people as attested by the use of inscribed funerary monuments (Wilson, 2008; Charles-Edwards, 2013). The burial and commemoration of settlers from Ireland is evidenced by the use of

Irish ogham upon stone monuments such as that from Ballaqueeny, dated to the 5th to 6th century, which commemorates an individual with an Irish name, *Bivaidoinas* (McManus, 1991; Laing, 2006; Charles-Edwards, 2013). The monolingual ogham inscribed stones are concentrated in the southwest of the island, whilst bilingual – ogham and Latin – stones occur in the northwest (Charles-Edwards, 2013). According to Charles-Edwards (2013, 150), 'the island had always, in the pre-Viking period, had speakers of both British and Irish'. There is also epigraphic evidence to suggest the settlement of people from England on the island; for example, an inscribed stone monument from Maughold commemorates an Anglo-Saxon individual, Blakman, in Anglo-Saxon runes (Kinvig, 1975; Laing, 2006). Indeed, in the 7th century, attempts were made by the Northumbrians to gain control over the Isle of Man. Bede's *Ecclesiastical History of the English People* dating to the early 8th century records that the Isle of Man was bought under the control of King Edwin of Northumbria c. AD 633 (Colgrave and Mynors, 1969; Charles-Edwards, 2013). A desire to exert control over the Irish Sea territories may have stimulated interest in the Isle of Man, and facilitated the settlement of people on the island from mainland Britain and Ireland. It was also during the 6th and 7th centuries that populations in Britain and Ireland were threatened by a swathe of devastating plagues that spread from the Continent (Maddicott, 1997, 2007). For example, the Welsh king, Maelgwn of Gwynedd, died in the 'great mortality' of AD 547, whilst in the early 8th century, Bede recalls how 'a sudden pestilence first depopulated the southern parts of Britain and afterwards attacked the kingdom of Northumbria' in the north (Colgrave and Mynors, 1969: 313; Maddicott, 1997; Charles-Edwards, 2013). Religious communities were forced to leave their residences, including the monks of Rathmelsigi in Ireland, who were 'scattered about in various places' (Colgrave and Mynors, 1969: 312–313; Sharpe, 1995; Maddicott, 1997). Thus, the 6th and 7th centuries were a time of upheaval, and events occurred which may have stimulated a degree of internal mobility within the British Isles. Certainly, the Isle of Man's position and its close proximity to northern Britain, Wales and Ireland may have facilitated a degree of contact and population relocation between the neighbouring early medieval communities.

5.2. The influence of Christianity

There was a close association between Wales and the Isle of Man, particularly given the proximity between the island and the north Wales coast. The bilingual Latin and ogham inscribed funerary monuments from the northwest of the island are very similar to those from Wales (Charles-Edwards, 2013). The early medieval period was a time of mobility for members of the Church, and Christianity was introduced to the Isle of Man at some point during the 5th century, in all likelihood, through the work of missionaries from western Britain (Laing, 2006; Wilson, 2008). During the 6th century, monasticism flourished in western Britain and Ireland, and monastic communities like those at Holyhead and Penmon on Anglesey were established (Davies, 1982; Arnold, 1998; Charles-Edwards, 2013). According to Thomas (1971, 94), 'at most stages and in most areas of Christianity, we find small and isolated monasteries, notably on islands' as holy men and women were inspired to follow the example of 3rd- and 4th-century eremitical desert monks like St Anthony (Chitty, 1966; Thorpe, 1974). For instance, Bede recalls how St Cuthbert sought hermitage on Farne Island off the Northumbrian coast, whilst the Welsh saint Samson joined an eremitical community on Caldey Island off the Pembrokeshire coast (Davies, 1982; Colgrave and Mynors, 1969; Petts, 2009). Islands, such as Iona off the west coast of Scotland and Bardsey off the coast of northwest Wales, were therefore seen as places of retreat and hermitage, ideal for members of the monastic order (Davies, 1982; Arnold, 1998; Petts, 2009) (see Fig. 1). It is possible that the Isle of Man may have served a similar purpose, as a monastic foundation was probably established at Maughold by the 7th century, whilst the 7th-century 'Monks Cross', also from Maughold, depicts the desert monks, St Paul and St Anthony (Butler, 1866; Dugdale, 1998; Freke, 2002; Laing, 2006; Wilson, 2008). Further, given the isolation of Peel Castle away from the main island, parallels have also been drawn between Peel Castle and island monasteries such as that at Skellig Michael off the southwest coast of Ireland (Freke, 2002), which according to Thomas (1971, 94) served as 'communal hermitages' or 'eremitic monasteries'. Thus, one possible interpretation of the isotopic evidence is that the perception of the Isle of Man as a suitable place of hermitic refuge may have inspired those seeking solace to travel to the island from elsewhere in the British Isles.

5.3. The Irish Sea 'trade highway'

During the early medieval period, the Isle of Man stood at the centre of an Irish Sea 'trade highway', and therefore trade must be considered as a stimulus for mobility at this time. Albeit scant, there is archaeological evidence for localised trade and exchange between the Isle of Man, mainland Britain and Ireland. For example, excavation at Ronaldsway, approximately 3 miles from Balladoole, revealed a secular settlement of 6th–7th century date with evidence for metalworking and the manufacture of items of Irish style including a pennanular brooch and a ring brooch (Laing, 2006). A small mount also from Ronaldsway shows stylistic parallels with Anglo-Saxon/Frankish S-brooches, possibly suggesting contact and exchange with mainland Britain (Laing, 2006). Long distance trade to western Britain was, from the 7th century, dominated by the importation of Merovingian glass vessels and E ware pottery from western Gaul (Wooding, 1996; Campbell, 2007). The distribution of E ware pottery is concentrated upon the east coast of Ireland including County Down in the northwest, whilst finds have also been recovered from Whithorn, Dunadd and Dumbarton in western Scotland. The distribution of finds has led to the suggestion that Gaulish traders either continued north after trading in Ireland, or that Irish merchants redistributed these imported wares (Wooding, 1996). There is, however, a notable dearth of imported pottery on the Isle of Man, with only a single sherd of E ware recovered from the site of Port y Candas in the west of the island (Davey, 2002). The absence of Mediterranean pottery on the Isle of Man is also in contrast to nearby sites such as Whithorn in southwest Scotland and Clogher in Northern Ireland (Thomas, 1990; Wooding, 1996; Campbell, 2007). The scarcity of these imports suggests that the Isle of Man was not involved in either trade system; however, given the island's central position, it is possible that it played an intermediary role, possibly as a stopping point for merchants distributing their imported wares around the Irish Sea (Bowen, 1970) (see Fig. 1). Certainly it may be necessary to reconsider the island's role in the Irish Sea trade network given the result for the young adult female (BD 6) from Balladoole whose enriched oxygen isotope signature suggests a childhood origin in continental Europe. Moreover, a 7th-century inscribed stone monument from Santon in the southeast of the island shares epigraphic parallels with early Christian continental or North African epigraphy (Charles-Edwards, 2013), suggesting that there may have been links with the Continent which have, until now, been overlooked and require further investigation.

6. Conclusion

This study presents the first corpus of strontium and oxygen isotope data for pre-Viking Age populations on the Isle of Man and,

consequently, contributes to an expanding dataset for other early medieval populations from western Britain (e.g. Hemer et al., 2013). Whilst there are individuals in the sample who were local to the study region, the data also provide evidence for mobility to the island. When consideration is given to the origins of these individuals, it is clear that there are those who originated to the west of the Isle of Man, and those who grew up to the east of the island. Thus, the Isle of Man's central position and its close proximity to northern Britain, Wales and Ireland facilitated a degree of contact between the neighbouring early medieval communities. Archaeological and historical evidence – including evidence for trade and epigraphic inscriptions – has been considered in order to contextualise the isotopic data, whilst a multitude of other possible reasons for contact and migration to the island remain beyond the scope of this paper. Whilst the study sample was small and further data may be obtained in the future, it nonetheless seems reasonable to conclude that the settlement of people on the Isle of Man from around the British Isles – and perhaps even from continental Europe – was a phenomenon that arose many centuries before the advent of the Viking Age and the arrival of settlers from Scandinavia.

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